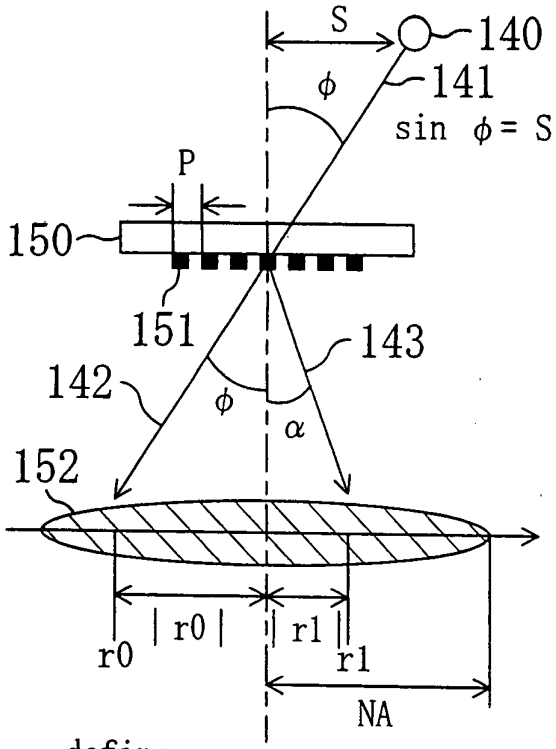
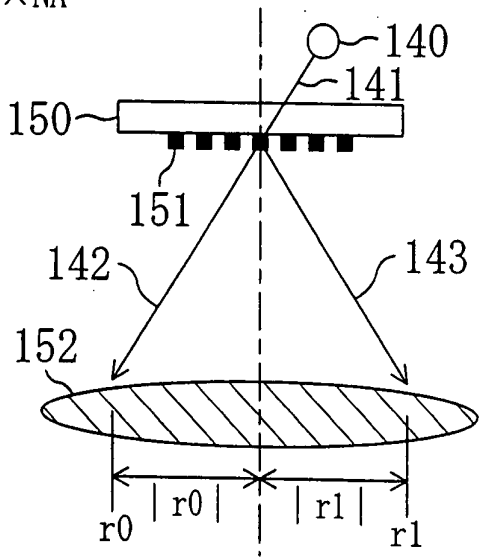
FIG. 5A



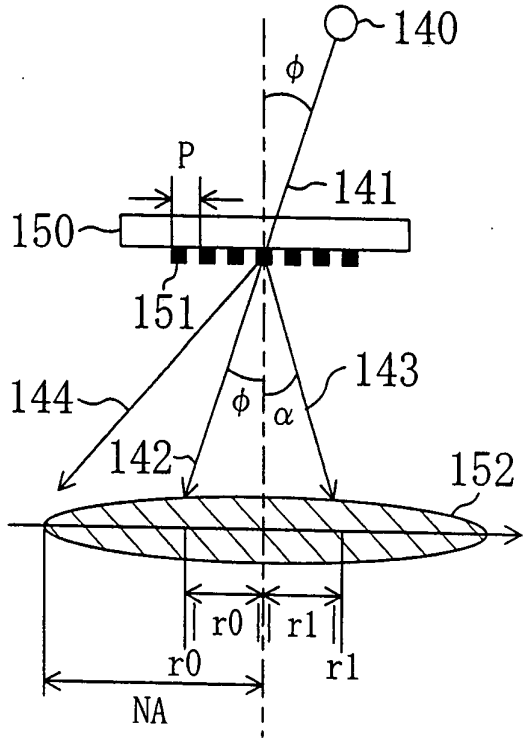

define
$\sin\phi = |r0|$,
$\sin\alpha = |r1|$,
$|r0| + |r1| = \lambda/P$ and
$\sin\theta_1 = |r0| + |r1|$

FIG. 5B




If r0 = -r1, focused 0th-order diffraction light and focused first-order diffraction light are in the identical phase even in a defocus state.

FIG. 5C




When both +first-order diffraction light and -first-order diffraction light pass through a mask, a good defocus state cannot be obtained.

define
$\sin\phi = |r0|$,
$\sin\alpha = |r1|$,
$|r0| + |r1| = \lambda/P$ and
$\sin\theta_1 = |r0| + |r1|$

FIG. 6A

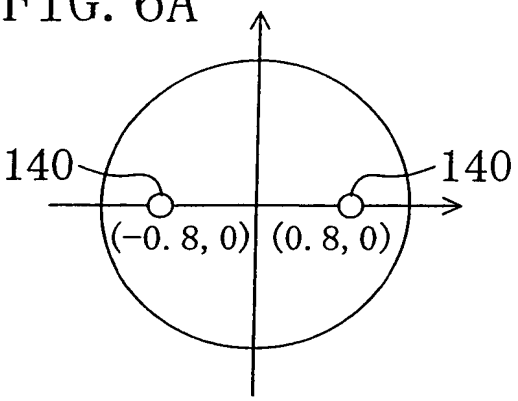



FIG. 6B

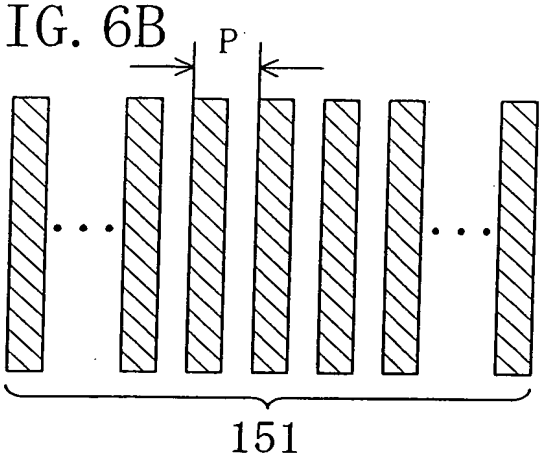



FIG. 6C

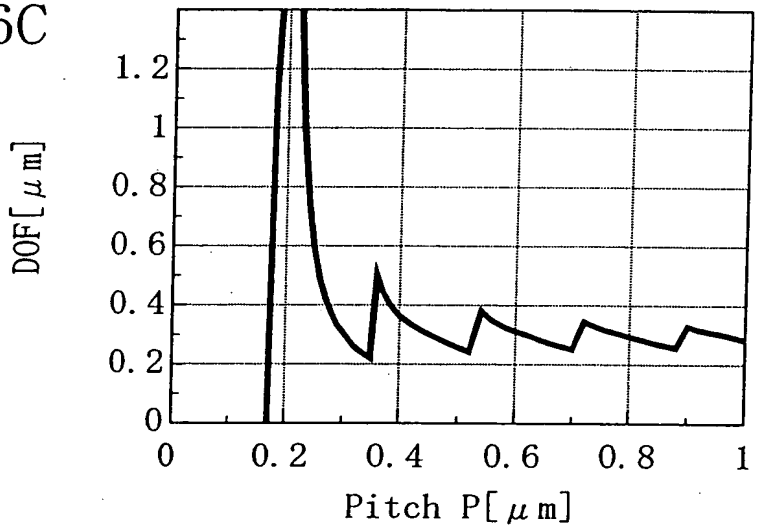
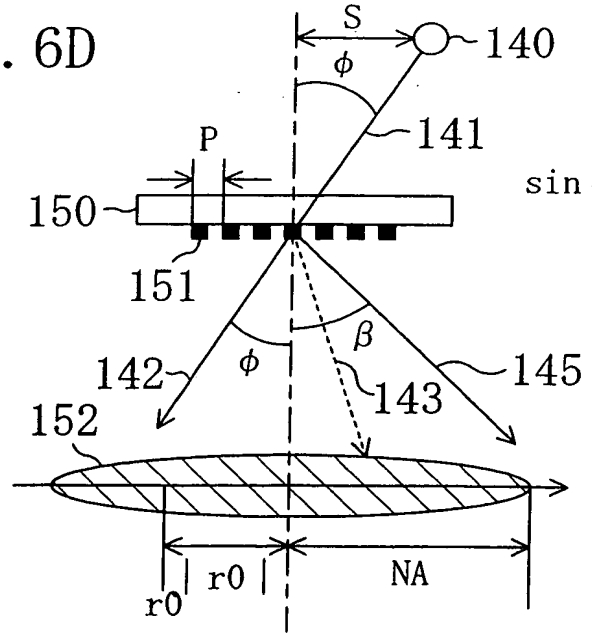



FIG. 6D




$\sin\phi = S \times NA$

define
$\sin\phi = |r0|$,
$\sin\beta = NA$,
$|r0| + NA = 2\lambda / P$ and
$\sin\theta_2 = |r0| + NA$